REMARKS

Information Disclosure Statements

Applicants note the Examiner has not yet considered the *Information Disclosure Statement* submitted January 18, 2005 and in accordance with 37 C.F.R. § 1.97(e). As noted in the *Interview Summary* that accompanied the present *Office Action*, the Examiner had previously mailed this *Office Action* on January 19, 2005. The January 19 mailing was subsequently returned having been mailed to the incorrect address. The present *Office Action*, mailed February 4, appears to have merely been re-mailed without any further review of the file wrapper as the present *Office Action* bears an Examiner's signature dated January 12, 2005. As such, Applicants presume the January 18, 2005 *Information Disclosures Statement* and the present *Office Action* to have 'crossed' in the mail. In preparing a response to the Applicants' present *Amendment*, the Applicants respectfully request the Examiner to consider the January 18, 2005 *Information Disclosure Statement*.

Applicants will, shortly after filing the present *Amendment*, submit an additional *Information Disclosure Statement*. Applicants respectfully request the Examiner's consideration of this soon-to-be submitted *Information Disclosure Statement* in preparing a response to the Applicants' *Amendment*.

Rejections Under 35 U.S.C. § 101

The Examiner rejected claims 41 and 55 under 35 U.S.C. § 101 asserting them to be "directed to non-statutory subject matter." *Office Action*, 2. Specifically, the Examiner questions "whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result." *Office Action*, 2. The Applicants noted that the discussion herein is exemplary as to the practical applications of these claims with respect to the present Section 101 rejection. These examples are not meant to be interpreted as limiting the scope of the claim language.

Applicants respectfully submit that upon entry of the above amendments to independent claims 41 and 55, in view of the teachings of the specification, and in consideration of the remarks herein, it is evident these claims are directed to at least one practical application, which include 'managing electronic communications in a computer network' and 'processing a relationship event in a computer network.' See *supra* claims 41 and 55. The claimed invention as whole, including claims 41 and 55, produces a "useful, concrete and tangible result," which has "a certain level of 'real world value.'" *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998); *M.P.E.P.* § 2106(II)(A); see, e.g., *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999) (claiming a billing *process*).

Applicants note that claims 41 is not merely reciting the manipulation of an abstract idea. See *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994). Claim 41 recites 'a method for managing electronic communications in a computer network.' An embodiment of the method comprises receiving a communication—electronic mail or a 'chat' transaction, for example—and analyzing that communication to determine its intent. That is, 'what does this customer want?' or 'what is the customer attempting to communicate?' The computer coupled to the network then produces a 'predicted response,' that is, what the computer has determined to be the 'best' or 'most likely' response to the customer inquiry (communication). For example, if a customer is inquiring as to the shipping status of an order, the predicted response may be the date and time the order shipped. This 'predicted response' is based on the purpose (intent) of the customer inquiry (communication).

The 'actual response,' however, is that response actually communicated to the customer, which may or may not be the 'predicted response.' The 'actual response' and the 'predicted response' are subsequently compared to determine the accuracy (*e.g.,* propriety) of the 'predicted response.' For example, through customer feedback (*e.g.,* 'was this response helpful to you—yes or no?'), it can be determined if the 'predicted response' was the correct or best suited response. If the 'predicted response' was the best suited response, then the likelihood of the 'predicted response' being the 'actual

response' in the future is increased. If the 'predicted response' was not the best response (the 'actual response'), then future queries will be less likely to utilize that 'predicted response.'

The correlation of the 'actual' and 'predicted response' are stored thereby improving the operation and overall accuracy of the presently described system.. That is, all these steps pertain to the management of electronic communications such that the receipt and response of those communications better correspond with one another: a useful, concrete, and tangible result. See *State Street Bank*, 149 F.3d at 1373; see also *In re Bernhart*, 417 F.2d 1395, 1400 (CCPA 1969) (finding maximization of computing efficiency to constitute statutory subject matter).

Additionally, statutory subject matter exists when there is the measurement of physical objects or activities to be transformed outside of the computer into computer data. *In re Gelnovatch*, 595 F.2d 43, 41 n.7 (CCPA 1979); see also *MPEP* § 2106(B)(2)(b). As the method of claim 41 recites 'receiving a communication,' that communication necessarily must be generated. That communication may be, for example, a voice transmission or composition of an email message. Both examples require the transformation of a physical activity into computer data. Accordingly, the Applicants respectfully submit that independent claims 41, as well as its dependents, are directed toward statutory subject matter under 35 U.S.C. § 101 and have practical application in the technological arts.

Claim 55, too, produces the requisite useful, concrete, and tangible result required by *State Street Bank* in its processing of 'relationship events.' Like claim 41, an embodiment of claim 55 will receive a 'relationship event,' that is, "any communications between [an] organization and other external or internal entities." *Specification*, p. 9 at l. 19-20. Specific examples of relationship events include "an email from a customer, an order placed via a secured web-based ordering system, an email sent from a queue to an agent, a document submitted to a document management system, [or] an automatic email response sent to a customer." *Specification*, p. 9, l. 21-p.10, l. 2. The relationship event is then analyzed to identify concepts in that event, for example, "single words

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from email texts, voice data" or "field descriptors from a web-based form." *Specification*, p. 9, l. 5-6. Relationship events may be more broadly understood as "basic components of language information." *Specification*, p. 14, l. 8-9. That is, "sentences, words, stems, semantically significant constructs, the type and number of punctuation marks, strong use of the passive voice, dates, and currency amounts." *Specification*, p. 14, l. 9-12.

After identifying these concepts, an event model of the event is built. As noted in the specification:

> the concepts are used to build a model for the event using statistical modeling and modeler 212, as discussed above. In step 316, modeler 212 determines whether it needs further linguistic information for the event. If so, the method returns to step 312 for additional natural language processing. If not, the method continues with step 318, where ME 116 maps the event model to all models in AKB 118 to determine the relevancy of the event to each category. *Specification*, p. 23, l. 21-p. 24, l. 4.

After having built these models, the relationship event is routed to a proper recipient based on its category score. For example, "[a]n event may be routed to certain queues or agents if the corresponding score is greater than a predetermined threshold." *Specification*, p. 24, l. 11-13. In that regard, the relationship event is delivered as necessary for processing based on that score; because of that score-based routing, relationship events are more efficiently processed: a useful, concrete, and tangible result. See *State Street Bank*, 149 F.3d at 1373; see also *In re Bernhart*, 417 F.2d 1395, 1400 (CCPA 1969) (finding maximization of computing efficiency to constitute statutory subject matter).

In addition to the applicability of *In re Gelnovatch* with regard to the transformation of physical activities into computer data—generating a communication— the Supreme Court in *Diamond v. Diehr* noted a process is statutory if it requires physical acts performed independent of the steps programmed by the computer." 450 U.S. 175, 187 (1981); see also *MPEP* § 2106(B)(2)(b). Claim 55 recites the step of "routing the relationship event over the computer network **for action** based on the category scores." *Amendment C*, p. 11 (emphasis added). As that action, in an embodiment of the invention, may be carried out by an agent, there exists a "post-computer process step[ ]

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that result[s] in a physical transformation outside the computer . . . [and] the claim is clearly statutory." *MPEP* § 2106(B)(2)(b); see *Specification*, p. 24, l. 11-13. Accordingly, the Applicants submit that independent claim 55 and its dependents are directed toward statutory subject matter and have practical application in the technological arts.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claim 82 under 35 U.S.C. § 112, ¶ 1 because "the specification do[es] not reasonably provide enablement for an actual category." *Office Action*, 3. Specifically, amended Claim 82 recites:

> A method for real-time modeling of communications in a computerized communication management system, comprising:
> receiving a communication;
> creating a model of the communication on a computer;
> comparing the model of the communication to a set of adaptive models to determine a category for the communication;
> comparing the determined category with an actual category for the communication to generate feedback; and
> updating the set of adaptive models according to the feedback.

The Examiner, in the *Office Action*, suggested "[t]he nature of the invention in regards to an actual category is not clear." *Office Action*, 4. The Applicants have amended the preamble of claim 82 with regard to "real-time modeling of communications." *Amendment C*, 18. Thus, notwithstanding the use of the open-ended transitional phrase 'comprising,' there no longer exists the Examiner's asserted "open interpretation of [an] actual category" as that category is now specifically defined: real-time modeling of communications. *Office Action*, 3.

The specification of the present application, with regard to real-time modeling, provides sufficient examples and teachings as to overcome the Examiner's asserted "lack of working examples, amount of direction provided, [and] quantity of experimentation needed to make or use the invention." *Office Action*, 4. For example, the specification teaches processing feedback "in real time" in the overall context of a communications management system. *Specification*, p. 4, l. 21-22; see *Specification*, p. 1, l.

18-19. The specification further teaches the receipt of communications at a contact center "via various communication channels including [but not limited to] phone, facsimile, electronic mail, web forms, chat, and wireless." *Specification*, p. 4, l. 5-7; see also *Specification*, p. 7, l. 7-10.

The specification of the present application further teaches "translat[ing] incoming communications from the various communication channels to confirm to universal data model 114, so that data from the various communication channels may be represented according to a common data structure." *Specification*, p. 8, l. 7-10. The specification of the present application further teaches comparing models and categories wherein:

> UDM 114 allows system 100 to analyze, model, and compare models of different types of data. System 100 may create and compare models of email communications, models of database information, and models of human agents. System 100 is able to compare a model of an email communication to a model of an agent, which in turn may be compared to a model of a business process because all models have the same universal structure. *Specification*, p. 8, l. 16-21.

That determined category can then be compared to an actual category for the purposes of producing feedback.

Finally, the specification teaches using feedback that contributes to the updating of adaptive models—"[t]he system learns from every communication that is processed"—as recited in the final step of claim 82. *Specification*, p. 5, l. 1-2. For examples, the specification teaches that:

> The adaptive knowledge base stores models that are used to predict responses and actions to the received communications based on the intent identified by the modeling engine. The feedback module monitors actual responses to the received communications and compares them to the predicted responses. If a predicted response is substantially the same as the actual response, the model or models that predicted the response are updated with positive feedback. The feedback module supports multiple feedbacks to a single communication. If a predicted response is substantially different than the actual response, the model or models that

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predicted the response are updated with negative feedback. *Specification,* p. 4, l. 12-21.

As such, Applicants contend the real time modeling method of claim 82 to be enabled and the Examiner's 35 U.S.C. § 112, ¶ 1 rejection to have been overcome.

Rejections Under 35 U.S.C. § 103

Independent Claim 1

The Examiner rejected claims 1-6, 8-14, 24-30, 32-33, 35, and 39 "under 35 U.S.C. 103(a) as being obvious over *Beck et al* USPN 6,138,139 . . . in view of *Register et al* USPN 5,371,807." *Office Action,* 5-6. Claim 1 recites:

> A system for electronic communication management comprising:
>> a contact center configured to send and receive communications;
>> a modeling engine configured to analyze a communication
> received by the contact center and determine an intent of the received
> communication;
>> an adaptive knowledge base configured to store models; and
>> a feedback module configured to analyze a response to the
> received communication and provide feedback to the modeling engine,
> which uses the feedback to update the models in the adaptive
> knowledge base.

Applicants' traverse the Examiner's rejection in that the cited references fail to teach all the limitations of claim 1. For example, the Examiner has failed to evidence the existence of (1) a modeling engine; (2) the modeling engine being configured to analyze a communication; (3) the intent of a communication; (4) an adaptive knowledge base; and (5) analyzing responses and updating models as are claimed in the present application. Additionally, Applicants' contend the Examiner not to have established a *prima facie* case of evidence concerning the combination of *Beck* and *Register*. As such, the Applicants contend claim 1 to be allowable over the prior art of record.

Modeling Engine

The Examiner, *inter alia*, asserts *Beck* to disclose "a modeling engine . . . configured to analyze a communication received by the contact center and determine . . . an intent . . . of the received communication." *Office Action*, 6. The Examiner identifies, as disclosing Applicants' claimed modeling engine, "a multimedia communication center . . . including an interface engine or model that allows communication-center interactions resulting from diverse interaction paths to be recorded and entered as threaded dialog"; specifically a 'diverse interaction model.' *Beck*, col. 38, l. 3-7; see *Beck*, col. 38, l. 1. Applicants respectfully traverse the Examiner's assertion that *Beck* discloses a modeling engine as claimed in the present application.

That portion of *Beck* recited by the Examiner merely refers to a diverse interface engine or model that allows for interactions to be logged as a dialog. While *Beck* uses the language 'model,' it would be a misreading of the *Beck* reference to equate this single word to the Applicants' claimed modeling engine. Instead, a more detailed reading of *Beck* reveals that the aforementioned 'diverse interaction paths' are "non-routine, or less-routine type of communication path" such as a "simultaneous communication between two or more agents with outside vendors to assist a client who is live and in queue." *Beck*, col. 38, l. 11-12; col. 38, l. 16-18.

It is the aforementioned 'interface engine' or 'model' that records these "customer or issue-specific multimedia thread[s] in a database or contact history." *Beck*, col. 38, l. 24-25. Since "[i]t is desired that such dialog or dialogs including associated media is made a part of an accessible contact history," these dialogs are stored by the interface engine or model. *Beck*, col. 38, l. 20-22. *Beck* is not teaching an engine that, for example, "monitors relationship events and other business processes" as is Applicants' claimed modeling engine. See, generally, *Specification*, p. 9, l. 17-18. Nor is *Beck* "build[ing] semantical models based on relationship events"; models which are "continuously update[d] . . . using positive and negative feedback." *Specification*, p. 10, l. 3-4. Instead, *Beck* is merely teaching an interface/database for storing a contact history. See *Beck*, col. 38, l. 21-22.

Configured to Analyze

The Examiner then identifies as disclosing Applicants' claimed configuration of the modeling engine (*i.e.*, configured to analyze a communication) col. 13, l. 5-14 and col. 31, l. 56-col. 32, l. 5 of *Beck*. The first citation referenced by the Examiner pertains to "many routines comprising various steps for performing different processes." *Beck*, col. 13, l. 6-7. This reference to *Beck* in **no way teaches** the Applicants' claimed analysis of a communication but, instead, some vague reference to an unknown routine for carrying out an unknown step for performing an unknown process. The second citation by the Examiner fares no better in that this reference pertains to (1) an entirely different aspect of *Beck* from the aforementioned 'diverse interface engine or model' and (2) is merely a library of, for example, "hard data files." *Beck*, col. 30, l. 57.

This portion of *Beck* refers to an IOM (interaction object model). The Examiner had previously identified as Applicants' claimed modeling engine an 'interface engine or model.' Even if this aspect of *Beck* taught analysis of a communication—which it does not—it does so in the context of an IOM and not the aforementioned diverse engine or model.

Additionally, the described IOM of *Beck* is "an object model interface used as an accessible abstract representation of hard data files." *Beck*, col. 30, l. 55-57. The IOM comprises "[m]emory 275 . . . typically located in repository 263." *Beck*, col. 30, l. 64. The IOM is nothing more than a database and not an engine or module for "monitor[ing] what business processes follow from a relationship event and determin[ing] whether these processes match a model's prediction." *Specification*, p. 10, l. 12-13.

An Intent of a Communication

The Examiner next identifies col. 9, l. 25-36 and col. 31, l. 12-26 of *Beck* as disclosing "an intent" as claimed by the Applicants' in the present application. *Office Action*, 6. Applicants, again, respectfully traverse the Examiner's contention. The first portion of *Beck* cited by the Examiner focuses solely on the phrase "a basic intent of the fax." *Beck*, col. 9, l. 28-29. This citation, however, provides **absolutely no support or**

description as to what is meant by 'basic intent of the fax.' A reference must "contain[ ] an 'enabling disclosure'" in order for that reference to be considered anticipatory or evidencing a lack of non-obviousness. *In re Hoeksema*, 399 F.2d 269 (CCPA 1968). *Beck*, at least with regard to 'basic intent' provides no such enabling disclosure.

A reference is deemed to contain an 'enabling disclosure' "if the public was in possession of the claimed invention before the data of invention." *MPEP § 2121.01*. "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." *In re Donohue*, 766 F.2d 531 (Fed. Cir. 1985). As *Beck* provides no support or description for what is meant by the 'basic intent of the fax,' *Beck* cannot be interpreted as possessing an enabling disclosure for the purposes of evidencing the disclosure of the 'intent of a communication' as recited in the Applicants' present application.

The second portion of *Beck* cited by the Examiner also fails to evidence the Applicants' claimed intent as *Beck* merely lists different types of "enterprise important information such as client ID, client parameters, transactional analysis (such as profitability rating), credit rating, and so forth" in addition to "media type, interaction date, participating party ID's and their parameters, and any parsed information specific to the interaction." *Beck*, col. 31, l. 16-22. This list of information is "stored or deleted in repository 263" thereby further evidencing that IOM 253 is not a modeling engine but, instead, a database. *Beck*, col. 31, l. 14.

As noted in the Applicants' disclosure, many communication channels "contain information that is unstructured in nature, usually expressed in natural language"; this lack of structure is evidenced by the fact that "[d]ifferent customers may make identical requests each in a unique way, using different communication channels, different words, or both." *Specification*, p. 2, l. 6-8; l. 8-9. A human agent is "usually required to review each natural language communication to evaluate the customer's intent" — that is, 'what does this customer want?' or 'what is this customer attempting to communicate?' *Specification*, p. 2, l. 10-11. The present invention is innovative, in part, in that the claimed modeling engine analyzes a received communication to determine

the intent of the communication in the same way that a human agent would normally review that communication. No reference made by the Examiner to *Beck* evidences intent as described in the context of the present application.

In that regard, the Examiner's final reference to a received communication in col. 32, l. 55-67 of *Beck* is also traversed by the Applicants. *Beck* discloses a new component — IPM (interaction process model) — "accessing data from, among other possible sources, the IOM." *Beck*, col. 32, l. 60. That is, IPM is merely retrieving stored data from the IOM. This retrieved data is not a received communication comprising an intent as is claimed by the Applicants. *Beck*, as referenced by the Examiner, discloses nothing more than mere data retrieval from a database of customer information.

Adaptive Knowledge Base

The Examiner's reference to *Beck* (col. 8, l. 5-11) as disclosing an adaptive knowledge base fails to disclose each and every limitation of the knowledge base, specifically that the base is 'adaptive.' For example, *Beck* only discloses "tooled process models, knowledge bases, and other object models . . . [which] are easily editable providing a customizable framework." *Beck*, col. 8, l. 7-10. These so-called knowledge bases of *Beck* evidence no characteristic with regard to being able to adapt.

In the Applicants' invention, a modeling engine "monitors what business processes follow from a relationship event and determines whether these processes match a [knowledge base] model's predictions." *Specification*, p. 10, l. 12-13. "A response that matches the prediction is positive feedback that increases the model's accuracy rating"; a non-conforming response "is negative feedback that decreases the model's accuracy rating." *Specification*, p. 10, l. l. 13-16. **"Both positive and negative feedback adapts AKB [adaptive knowledge base] 118."** *Specification*, p. 10, l. 16-17 (emphasis added).

In practice, the knowledge base, for example, generates a predictive response to a customer communication (*e.g.*, a query to a general information line concerning a payment) and based on whether the predicted response is correct or incorrect, the

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knowledge base **learns and adapts** with regard to future predictions. For example, if the predicted response is the correct response to that communication (*e.g.*, directing the customer to the billing department), the knowledge base will **learn and adapt** to utilize that same response for identical or similar queries in the future. If the predicted response is incorrect (*e.g.*, erroneously directing the customer to technical support), then the knowledge base will **learn and adapt** to use a different predicted response (or at least not the same predicted response) for the same or similar queries in the future.

"All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). In that regard, there is no evidence of the **adaptability** of the so-called knowledge base in *Beck*. While *Beck* notes that its models are "editable," this does not equate to the fact that the models stored in the so-called knowledge base are adaptive as claimed in the Applicants' invention. *Beck*, col. 8, l. 10. 'Adapt' is an adjective meaning 'having a capacity for adaptation.' Adaptation, in that regard, means 'adjustment," for example 'the process of adapting to something such as environmental conditions.' This meaning of 'adapt/adaptive' is distinct from that of 'edit,' which means 'to correct errors within, or to modify a file or data set.' Whereas the Applicants' knowledge base learns and 'adapts' to its environment, the so-called knowledge base of *Beck* is merely capable of being corrected or updated through some sort of manual intervention, for example, rewriting a model such that it "may conform to virtually any existing business logic." *Beck*, col. 8, l. 11.

Analyzing Responses and Updating Models

As evidence of analyzing a response and subsequently updating a model in an adaptive knowledge base, the Examiner refers to col. 37, l. 15-43 of *Beck*. This portion of *Beck*, however, does not evidence the analysis of a response and subsequent update of a model. This portion of *Beck* merely references various modules "callable by the OS when needed to perform its programmed function." *Beck*, col. 37, l. 25-27. For example, if the OS requires an audit module (as described in *Beck*) to perform an auditing

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function, then the OS calls on the audit module to perform an audit. *Beck*, as cited by the Examiner, also discloses 'recall[ing] information, such as income information." *Beck*, col. 37, l. 35-36. This disclosure is merely representative of calling data from a database (*e.g.*, accessing a database to determine a certain value associated with a customer ID). In no way does this evidence analyzing a response or updating a model in light of that analysis.

While this portion of *Beck* does reference updating a module, it is in the context of manual intervention as evidenced in col. 37, l. 17-19 of *Beck* wherein a "programmer may elect to update [an interactive process module] as the most efficient model yet created thereby using it again for subsequent application." Not only is this disclosure further evidence of the distinguishing characteristics of editing (as described above) rather than adaptation as is characteristic of the Applicants' claimed knowledge base, it still fails to evidence analysis of a communication—in part because the Examiner has failed to evidence the existence of a communication as also described above.

Combination of *Beck* with *Register*

The Examiner admits that *Beck* "doesn't explicitly teach a feedback module configured to analyze responses to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base." *Office Action*, 6. This Examiner's statement begs the question that if there is no feedback module in *Beck*, how can there be a module carrying out the previously discussed analysis and updating limitation of Applicants' claimed invention?

This inconsistency aside, the Examiner references *Register* as disclosing the claimed feedback module. See *Office Action*, 6. The Examiner fails, however, to provide a proper motivation to combine the teachings of *Beck* with the purported teachings of *Register*. The Examiner merely states that "[t]he portions of the claimed system would have been a highly desirable feature for improving accuracy and performance over time." *Office Action*, 6. Notwithstanding, the Applicants suggest that the Examiner has not established a *prima facie* case of obviousness. A *prima facie* case of obviousness

requires (1) motivation "to modify the reference or to combine reference teachings"; (2) "a reasonable expectation of success"; (3) the references — when combined — "must teach or suggest all the claim limitations." *MPEP § 2143.* "If the examiner does not produce a *prima facie* case, **the applicant is under no obligation to submit evidence of nonobviousness.**" *MPEP § 2142.*

With regard to a motivation to combine, the Examiner's reference to the 'portions of the (Applicants') claimed system as being a highly desirable feature ignores the requirement that the teaching or suggestion to make the claimed combination **be found in the prior art** and **not in the applicants' disclosure.** See *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Notwithstanding, Applicants' are of the belief that there would be little motivation to combine the "text classification system and method" as described in *Register* (Abstract) and "multimedia call center . . . facilitating and monitoring diverse interactions between parties" that comprises "a database interface for access to an [multimedia call center] data repository; and an association facility for associating parties to transactions with agents and projects." *Beck,* col. 4, l. 36-43. Text classification as described in *Register* has little in common with "interaction multimedia technology" and "means for supporting and tracking diverse interaction paths" as described in *Beck.* That is, *Beck* and *Regsiter* are concerned with different problems (*Beck*'s "full multimedia dialog threading" (col. 4, l. 26) and *Register*'s "executing text classification" (col. 2, l. 20)) and there is no teaching in the art or evidence of knowledge of persons of ordinary skill in the art suggesting the combination. See *In re Rouffet,* 149 F.2d 1350, 1357 (Fed. Cir. 1998) (concerning three possible sources for motivation to combine).

Additionally, the Examiner offers no reasonable expectation of success. The Applicants' have difficulty conceiving the combination of *Register*'s text classification in a way that is serviceable with *Beck*'s multimedia dialog threading.

Finally, as has been evidenced above, the cited references — notwithstanding the lack of a motivation to combine or expectation of success in the same — wholly fail to teach the Applicants' claimed invention. See *In re Royka,* 490 F.2d 981 (CCPA 1974).

Dependent Claims 2-40

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants' have evidenced the non-obviousness of independent claim 1, the Applicants also contend dependent claims 2-40 to also be nonobvious. Claims 2-40 depend either directly or via intermediate dependent claims from independent claim 1 and are thus allowable for at least the same reasons as claim 1.

Independent Claim 41

The Examiner rejected claim 41, 43,-47, 49, 56 and 60 "under 35 U.S.C. § 103(a) as being obvious over *Beck et al* in view of *Masand et al* USPN 5,251,131." *Office Action*, 32. Claim 41, as amended, recites:

> A method for managing electronic communications in a computer network, the method comprising:
> receiving a communication over the computer network;
> analyzing the communication at a computer coupled to the computer network to determine an intent of the communication;
> generating a predicted response to the communication based on the intent of the communication;
> generating an actual response to the communication; and
> comparing the actual response to the predicted response to improve subsequent predicted responses to communications received over the computer network.

The Applicants respectfully traverse these rejections as the combination of *Beck* and *Masand* fails to teach all the claimed limitations of the Applicants' invention as set forth above, including: (1) analyzing a communication; (2) determining an intent of a communication; (3) producing a predicted response based on intent; (4) producing an actual response to a communication; and (5) improving subsequent predictions.

The Applicants also traverse the Examiner's combination of *Beck* and *Masand* as there is no motivation to combine the two references including the fact that the proposed combination would render *Masand* inoperable for its intended purpose. As such, the Applicants contend claim 41 to be allowable over the prior art of record.

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Analyzing a Communication

The Examiner asserts *Beck et al* to teach "analyzing [a] communication . . . to determine . . . an intent." *Office Action*, 32. As evidence of this purported disclosure, the Examiner identifies col. 13, l. 5-14 and col. 31, l. 56-col. 32, l. 5 of *Beck*. The first citation referenced by the Examiner pertains to "many routines comprising various steps for performing different processes." *Beck*, col. 13, l. 6-7. This reference to *Beck* in **no way teaches** the Applicants' claimed analysis of a communication but, instead, some vague reference to an unknown routine for carrying out an unknown step for performing an unknown process.

The second citation by the Examiner fares no better in that this reference pertains to an IOM library of "hard data files." See, e.g., *Beck*, col. 30, l. 57. Additionally, the described IOM of *Beck* is "an object model interface used as an accessible abstract representation of hard data files." *Beck*, col. 30, l. 55-57. The IOM comprises "[m]emory 275 . . . typically located in repository 263." *Beck*, col. 30, l. 64. The IOM is nothing more than a database and does not carry out "monitor[ing] what business processes follow from a relationship event and determin[ing] whether these processes match a model's prediction." *Specification*, p. 9, l. 12-13.

Determining an Intent of a Communication

The Examiner next identifies col. 9, l. 25-36 and col. 31, l. 12-26 of *Beck* as disclosing "an intent" as claimed by the Applicants' in the present application. *Office Action*, 32. Applicants, again, respectfully traverse the Examiner's contention. The first portion of *Beck* cited by the Examiner focuses solely on the phrase "a basic intent of the fax." *Beck*, col. 9, l. 28-29. This citation, however, provides **absolutely no support or description** as to what is meant by 'basic intent of the fax.' A reference must "contain[ ] an 'enabling disclosure'" in order for that reference to be considered anticipatory or evidencing a lack of non-obviousness. *In re Hoeksema*, 399 F.2d 269 (CCPA 1968). *Beck*, at least with regard to 'basic intent' provides no such enabling disclosure.

A reference is deemed to contain an 'enabling disclosure' "if the public was in possession of the claimed invention before the data of invention." *MPEP § 2121.01.* "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." *In re Donohue,* 766 F.2d 531 (Fed. Cir. 1985). As *Beck* provides no support or description for what is meant by the 'basic intent of the fax,' *Beck* cannot be interpreted as possessing an enabling disclosure for the purposes of evidencing the disclosure of the 'intent of a communication' as recited in the Applicants' present application.

The second portion of *Beck* cited by the Examiner also fails to evidence the Applicants' claimed intent as *Beck* merely lists different types of "enterprise important information such as client ID, client parameters, transactional analysis (such as profitability rating), credit rating, and so forth" in addition to "media type, interaction date, participating party ID's and their parameters, and any parsed information specific to the interaction." *Beck,* col. 31, l. 16-22. This list of information is "stored or deleted in repository 263" thereby further evidencing that IOM 253 is not a modeling engine but, instead, a database. *Beck,* col. 31, l. 14.

As noted in the Applicants' disclosure, many communication channels "contain information that is unstructured in nature, usually expressed in natural language"; this lack of structure is evidenced by the fact that "[d]ifferent customers may make identical requests each in a unique way, using different communication channels, different words, or both." *Specification,* p. 2, l. 6-8; l. 8-9. A human agent is "usually required to review each natural language communication to evaluate the customer's intent" — that is, 'what does this customer want?' or 'what is this customer attempting to communicate?' *Specification,* p. 2, l. 10-11. The present invention is innovative, in part, in that the claimed modeling engine analyzes a received communication to determine the intent of the communication in the same way that a human agent would normally review that communication. No reference made by the Examiner to *Beck* evidences intent as described in the context of the present application.

In that regard, the Examiner's final reference to a received communication in col. 32, l. 55-67 of *Beck* is also traversed by the Applicants. *Beck* discloses a new component— IPM (interaction process model)—"accessing data from, among other possible sources, the IOM." *Beck*, col. 32, l. 60. That is, IPM is merely retrieving stored data from the IOM. This retrieved data is not a received communication comprising an intent as is claimed by the Applicants. *Beck*, as referenced by the Examiner, discloses nothing more than mere data retrieval from a database of customer information.

Generating a Predicted Response Based on Intent

The Examiner asserts *Beck* to teach producing a predicted response at col. 10, l. 49-53. The Examiner, however, fails to reconcile the alleged 'intent' disclosed by *Beck*— and to which the Applicants have previously traversed—and its role in the production of a predicted response. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). In that regard, the Examiner has disregarded **intent** as it pertains to the predicted response.

Additionally, the Applicants contend the portion cited by the Examiner not to evidence producing a predicted response. *Beck* references an ambiguous "outbound campaign." *Beck*, col. 10, l. 49. There is no indication in *Beck* as to what *is* this so-called outbound campaign in order to determine whether it corresponds to Applicants' claimed predicted response. Assuming, *arguendo*, this 'campaign' is the Applicants' claimed predicted response, the 'campaign' is "configured according to enterprise rules and media preferences" and **not** in response to the intent of a communication. *Beck*, col. 10, l. 49-50; see *In re Wilson*, 424 F.2d at 1385 (concerning considering all words in a claim).

The Applicants note that the Examiner appears to have focused on the terminology "predictive dialing." *Beck*, col. 10, l. 52. Predictive dialing, however, is not the same as a predicted response as described in the context of the Applicants'

invention, for example, a predicted "answer, routing, or data association." *Specification*, p.10, l. 10-11.

Generating an Actual Response to a Communication

The Examiner contends *Beck* teaches "preparing a response to the communication," wherein that communication is an "actual response." *Office Action*, 32. As purported evidence of the preparation of a response, the Examiner identifies col. 23, l. 39-58 of *Beck*. This portion of the reference, however, merely teaches "building a threaded multimedia **contact-history of communication-center interactions**." *Beck*, col. 23, l. 40-41 (emphasis added). Creating a history of interactions is not the same as producing a response that comprises, for example, an "answer, routing, or data association." *Specification*, p.10, l. 10-11.

Applicants note that the Examiner appears to have focused on the language "prepared for entry into a database" and "[p]reparation" of certain automated processes. *Beck*, col. 23, l. 51-52, 53. Applicants note that the mere recitation of the word 'prepare' does not necessarily equate to the preparation of a response as is claimed in the Applicants' invention.

The Examiner also cites *Beck* at col. 32, l. 28-45 with regard to the response being an *actual* response. Applicants traverse the Examiner's assertion that this portion of *Beck* discloses an 'actual response' as is claimed in the present Application. *Beck*, here, discloses "an Interactive Process Model (IPM)" that "conducts a defined business process" such as "manag[ing] business applications in terms of timing and execution of main tasks and sub-tasks that are programmed according to enterprise rules." *Beck*, col. 32, l. 39-45. The Applicants fail to see how automated processing and execution of tasks and sub-tasks internal to a system constitute an actual response as described in the context of the Applicants' claimed invention.

Improving Subsequent Predictions

The Examiner notes that *Beck* "doesn't explicitly teach comparing the actual response to the predicted response to improve subsequent predictions." *Office Action*, 32. For this limitation, the Examiner refers to *Masand*, which the Examiner contends results in "improve[d] subsequent predictions" as a result of comparing actual and predicted responses. *Office Action*, 32. That portion of *Masand* the Examiner references with regard to improving subsequent predictions fails to evidence any such improvement.

That portion of *Masand*—col. 40, l. 63-col. 41, l. 9—discusses only the benefits of the invention of *Masand*: "faster at classifying, categorizing, analyzing or otherwise relating two or more bodies of data" (col. 40, l. 66-67); "easier to construct and modify" (col. 41, l. 2); "retain[ing] all of the data originally appearing in the original records" (col. 41, l. 4-5) and so forth. These purported benefits of *Masand* in no way evidence improving subsequent predictions as claimed in the Applicants' invention.

Combining *Beck* and *Masand*

The Applicants suggest that the Examiner has not established a *prima facie* case of obviousness. A *prima facie* case of obviousness requires (1) motivation "to modify the reference or to combine reference teachings"; (2) "a reasonable expectation of success"; (3) the references—when combined—"must teach or suggest all the claim limitations." *MPEP § 2143*. "If the examiner does not produce a *prima facie* case, **the applicant is under no obligation to submit evidence of nonobviousness.**" *MPEP § 2142* (emphasis added). Applicants contend the Examiner mere statement of "providing more accurate results" fails to meet this burden. *Office Action*, 32.

With regard to a motivation to combine, the Examiner's reference to the 'portions of the (Applicants') claimed system as being a highly desirable feature ignores the requirement that the teaching or suggestion to make the claimed combination **be found in the prior art and not in the applicants' disclosure.** See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Notwithstanding, Applicants' are of the belief that there

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would be little motivation to combine the means for "classification of natural language data" as described in *Masand* (Abstract) and *Beck's* "multimedia call center . . . facilitating and monitoring diverse interactions between parties" that comprises "a database interface for access to an [multimedia call center] data repository; and an association facility for associating parties to transactions with agents and projects." *Beck,* col. 4, l. 36-43. Natural language classification as described in *Masand* has little in common with "interaction multimedia technology" and "means for supporting and tracking diverse interaction paths" as described in *Beck.* That is, *Beck* and *Masand* are concerned with different problems (*Beck's* "full multimedia dialog threading" (col. 4, l. 26) and *Masand's* "system for classifying natural language data" (col. 6, l. 3-4)) and there is no teaching in the art or evidence of knowledge of persons of ordinary skill in the art suggesting the combination. See *In re Rouffet,* 149 F.2d 1350, 1357 (Fed. Cir. 1998) (concerning three possible sources for motivation to combine).

Furthermore, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See *In re Gordon,* 733 F.2d 900 (Fed. Cir. 1984). The combination of *Masand* as posited by the Examiner would, in fact, render *Masand* inoperable. That portion of *Masand* the Examiner contends as evidencing actual data for comparison (col. 3, l. l. 67-col. 4, l. 16), upon a closer reading, is found to actually be a description of "memory based reasoning systems of the prior art" and not the actual invention as described in *Masand.* Effectively, these prior art systems comprise a *third* reference the Examiner attempts to use in evidencing the purported lack of non-obviousness in the Applicants' presently claimed invention (*i.e., Beck + Masand + prior art memory based reasoning systems).*

Masand discounts these prior art systems in that they "require[ ] data values be well behaved." *Masand,* col. 4, l. 25-26. *Masand* continues in noting that these systems are "not suitable for use with data which is not well behaved." *Masand,* col. 4, l. 32-33. 'Ill behaved data,' according to *Masand,* is that data that has "an open-ended range of possible values for each data field or where the possible data values do not have some

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relative order or ranking." *Masand*, col. 4, l. 33-36. This type of data is better known, according *Masand* as "natural language." *Masand*, col. 4, l. 39. It is this natural language that is utilized by the actual invention of *Masand*. See *Masand*, col. 6, l. 3-4 ("[t]he present invention provides a system for classifying natural language data").

Therefore, if one were to combine the prior art memory based reasoning systems (for the purpose of producing actual responses) with the natural language classification system of *Masand* proper, the combination would fail as memory based reasoning systems are "not suitable for use with data which is not well behaved" as is utilized by *Masand*. *Masand*, col. 4, l. 32-33. Consideration of *Beck* is a moot point as the combination of the prior art disclosed in *Masand* with *Masand* has already rendered *Masand* inoperable.

Additionally, the Examiner offers no reasonable expectation of success. The Applicants' have difficulty conceiving the combination of *Masand*'s text classification in a way that is serviceable with *Beck*'s multimedia dialog threading.

Finally, as has been evidenced above, the cited references—notwithstanding the lack of a motivation to combine or expectation of success in the same—wholly fail to teach the Applicants' claimed invention. See *In re Royka*, 490 F.2d 981 (CCPA 1974).

Dependent Claims 42-54

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants' have evidenced the non-obviousness of independent claim 41, the Applicants also contend dependent claims 42-54 to also be nonobvious. Claims 42-54 depend either directly or via intermediate dependent claims from independent claim 41 and are thus allowable for at least the same reasons as claim 41.

Independent Claim 55

The Examiner rejected claims 34, 36-37, 55 and 59 "under 35 U.S.C. § 103(a) as being obvious over *Beck et al* in view of *Register et al* and in further view of *Bennett et al* USPN 6,615,172." *Office Action*, 23. Independent claim 55, as amended, recites:

> A method for processing a relationship event in a computer network, the method comprising:
> receiving the relationship event over the computer network;
> analyzing the relationship event at a computing device coupled to the computer network to identify concepts in the relationship event;
> building an event model of the relationship event using the identified concepts;
> mapping the event model to models in a knowledge base to generate category scores; and
> routing the relationship event over the computer network for action based on the category scores.

The Applicants respectfully traverse these rejections as the combination of *Beck*, *Register* and *Bennett* fails to teach all the claimed limitations of the Applicants' invention as set forth above, including: (1) analyzing a relationship event; (2) routing the relationship event based on category scores; (3) mapping event models; and (4) building an event model using the concepts. As such, the Applicants contend claim 55 to be allowable over the prior art of record.

Analyzing a Relationship Event

The Examiner identifies col. 7, l. 17-36 of *Beck* as evidencing receipt of a relationship event. *Office Action*, p. 26. The Examiner then contends Figures 1, 7 and 8 teach analysis of the content of that event. *Office Action*, p. 26. Figure 1 is "a diagram of a multimedia communication center"; there is no evidence of analysis of "agent/customer interactions" as identified in col. 7, l. 22 much less the **content** of the communication. Figure 7 is a "multimedia interaction storage system within a communication center" and like Figure 1 lacks any evidence of the analysis of the content of a communication. *Beck*, col. 5, l. 24-26. Finally, Figure 8 discloses "a block

diagram of the repository of FIG. 7." *Beck*, col. 5, l. 34. Like Figure 1 and 7, there is no evidence of the analysis of content of a communication.

The Examiner—despite stating "*Beck et al* teaches . . . analyzing the relationship event" later states just the opposite: "*Beck et al* doesn't explicitly teach analyzing the relationship event." *Office Action*, p. 26. The Examiner, in this instance, suggests *Bennett et al* teaches this limitation. This portion of *Bennett et al* fails to discuss, for example, concepts as defined by the specification: "any communications between [an] organization and other external or internal entities." *Specification*, p. 9 at l. 19-20. In fact, the Examiner appears to break a relationship event into two separate entities: a relationship *and* an event.

Additionally, the Examiner fails to identify a basis for combining *Beck* with *Bennett et al* in that "improving accuracy/speed/uniformity of response" is desired in **any** computing system and represents only an abstract concept rather than concrete suggestions or reasoning of how the cited references may be combined to solve specific problems.

Routing Based on Relationship Scores

The Examiner contends col. 17, l. 1-4 of *Beck* to teach this limitation as evidenced routing based on category scores. *Beck*, however, teaches routing "according to enterprise rules." *Beck*, col. 17, l. 3-4. A category score differs from a score as is noted in the specification at page 24, l. 6-9.

Mapping Event Models

The Examiner refers to column 1 of *Register* as evidence of the teaching of mapping event models. Column 1, however, refers to "shortcomings" in the art. *Register*, col. 1, l. 50. As such, the Applicants contends that to incorporate the prior art disclosed in *Register*—that is, the Examiner is not even utilizing the teachings of *Register*—with *Beck et al* and *Bennett et al* would result in a proposed modification that would render, for example, *Beck* and *Bennett* unsatisfactory for their intended purpose.

In that regard, there is no suggestion or motivation to make the proposed modification. See *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984).

Building an Event Model Using Concepts

The Examiner contends *Bennett et al* teaches creating a model utilizing a concept. *Office Action*, p. 26. Applicants respectfully traverse in that col. 20, l. 50-53 teaches a library of software code, including ActiveX controls. This library is not similar to a model used for predicting responses as is claim in claim 55. Additionally, col. 15, l. 6-52 fails to evidence utilization of a concept. While this particular portion of *Bennett* discusses improving computational speed and efficiency, there is no suggestion of a concept—for example, "single words from email texts, voice data" or "field descriptors from a web-based form" as noted in the specification at p. 9, l. 5-6—being utilized to create a model.

Independent Claim 56

Independent claim 56 is a computer-readable medium claim that is similar in scope to the method recited in claim 41. Independent claim 56 is allowable for at least the same reasons as set forth in claim 41.

Dependent Claims 57-58

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants have evidenced the non-obviousness of independent claim 56, the Applicants also contend dependent claims 57 and 58 to also be nonobvious. Claims 57 and 58 depend from independent claim 56 and are allowable for at least the same reasons as claim 56.

Independent Claim 59

Independent claim 59 is a computer-readable medium claim that is similar in scope to the method recited in claim 55. Therefore, independent claim 59 is allowable for at least the same reasons as set forth in claim 55.

Independent Claim 60

Independent claim 60 is a system claim that is similar in scope to the method recited in claim 41. Thus, independent claim 60 is allowable for at least the same reasons as set forth in claim 41.

Independent Claim 61

Independent claim 61 is a system claim that is similar in scope to the system of claim 1. Independent claim 61 is thus allowable for at least the same reasons as set forth in claim 1.

Dependent Claim 62

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants have evidenced the non-obviousness of independent claim 61, the Applicants also contend dependent claim 62 to also be nonobvious. Claim 62 depends from independent claim 62 and is allowable for at least the same reasons as claim 61.

Independent Claim 63

The Examiner rejected claims 63, 65, and 67-72 "under 35 U.S.C. § 103(a) as being obvious over *Beck et al* in view of *Bennett et al* and in further view of *Bigus*." *Office Action*, 50. Independent claim 63, as amended, recites:

> A method for computerized analysis of communications using computer-generated adaptive models, comprising:
> receiving a communication;
> analyzing content of the communication on a computer to identify at least one concept of the communication;
> creating a model of the communication using the at least one concept;
> comparing the model of the communication to a set of adaptive models to generate a predicted response to the communication;
> generating an actual response to the communication;
> comparing the predicted response and the actual response to produce feedback; and
> using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication.

The Applicants respectfully traverse these rejections as the combination of *Beck, Bennett* and *Bigus* fails to teach all the claimed limitations of the Applicants' invention as set forth above, including: (1) analyzing content of the communication; (2) generating an actual response; (3) creating a model utilizing a concept; and (4) comparing predicted and actual responses.

The Applicants also traverse the Examiner's combination of *Beck* with *Bennett* and *Bigus* as there is no motivation to combine the references; the Examiner, in fact, having failed to provide any such motivation with regard to combining *Beck* with either of the other two references. As such, the Applicants contend claim 63 to be allowable over the prior art of record.

Analyzing Content

The Examiner identifies col. 7, l. 17-36 of *Beck* as evidencing receipt of a communication. *Office Action*, p. 50. The Examiner then contends Figures 1, 7 and 8 teach analysis of the content of the communication. *Office Action*, p. 50. Figure 1 is "a diagram of a multimedia communication center"; there is no evidence of analysis of "agent/customer interactions" as identified in col. 7, l. 22 much less the **content** of the communication. Figure 7 is a "multimedia interaction storage system within a communication center" and like Figure 1 lacks any evidence of the analysis of the content of a communication. *Beck*, col. 5, l. 24-26. Finally, Figure 8 discloses "a block diagram of the repository of FIG. 7." *Beck*, col. 5, l. 34. Like Figure 1 and 7, there is no evidence of the analysis of content of a communication.

The Examiner—despite stating "*Beck et al* teaches . . . analyzing content of the communication" later states just the opposite: "*Beck et al* doesn't explicitly teach analyzing content of the communication." *Office Action*, p. 50. The Examiner, in this instance, suggests *Bennett et al* teaches this limitation. This portion of *Bennett et al* fails to discuss, for example, concepts as defined by the specification: "single words from email texts, voice data" or "field descriptors from a web-based form." *Specification*, p. 9, l. 5-6.

Additionally, the Examiner fails to identify a basis for combining *Beck* with *Bennett et al* in that "improving accuracy/speed/uniformity of response" is desired in **any** computing system and represents only an abstract concept rather than concrete suggestions or reasoning of how the cited references may be combined to solve specific problems.

Generating an Actual Response

The Examiner contends col. 23, l. 39-58 of *Beck* to teach the preparation of an actual response. *Office Action*, p. 50. Applicants respectfully traverse in that *Beck* discusses "building a multimedia-threaded **contact-history**" and not a response to the communication. *Beck*, col. 23, l. 44-45 (emphasis added). As such, there is no teaching of preparation of an actual response as required by claim 63.

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Creating a Model Utilizing a Concept

The Examiner contends *Bennett et al* teaches creating a model utilizing a concept. *Office Action*, p. 51. Applicants respectfully traverse in that col. 20, l. 50-53 teaches a library of software code, including ActiveX controls. This library is not similar to a model used for predicting responses as is claimed in claim 63. Additionally, col. 15, l. 6-52 fails to evidence utilization of a concept. While this particular portion of *Bennett* discusses improving computational speed and efficiency, there is no suggestion of a concept—for example, "single words from email texts, voice data" or "field descriptors from a web-based form" as noted in the specification at p. 9, l. 5-6—being utilized to create a model.

Comparing Predicted and Actual Responses

The Examiner suggests *Bigus* to teach "comparing the predicted response and the actual response to produce feedback." *Office Action*, p. 51. *Bigus*, however, discusses "different training algorithms," there is no discussion of comparison of responses to produce feedback. *Bigus*, col. 6, l. 18. Furthermore, *Bigus* is directed to resource allocation using neural networks; Applicants fail to see how resource allocation is related to response comparison for the purpose of generating feedback.

Dependent Claims 64-72

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants' have evidenced the non-obviousness of independent claim 63, the Applicants also contend dependent claims 64-72 to also be nonobvious. Claims 64-72 all depend directly from independent claim 63 and are thus allowable for at least the same reasons as claim 63.

Independent Claim 73

Independent claim 73 is a system claim that is similar in scope to the system of claims 1 and 61. Independent claim 73 is therefore allowable for at least the same reasons as set forth in claims 1 and 61.

Dependent Claims 74-77

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants' have evidenced the non-obviousness of independent claim 73, the Applicants also contend dependent claims 74-77 to also be nonobvious. Claims 74-77 depend either directly or via an intermediate dependent claim from independent claim 73 and are thus allowable for at least the same reasons as claim 73.

Independent Claim 78

The Examiner rejected claims 61-62, 73-77 and 78 "under 35 U.S.C. § 103(a) as being obvious over *Beck et al* in view of *Bigus* USPN 5,745,652." *Office Action*, 45. Independent claim 78, as amended, recites:

> A method for real-time learning in a computerized
> communication management system, comprising:
> receiving a communication;
> creating a model of the communication on a computer;
> comparing the model of the communication to a set of adaptive
> models to generate a predicted action in response to the communication;
> comparing the predicted action with an actual action in response
> to the communication to generate feedback; and
> updating the set of adaptive models according to the feedback.

The Applicants respectfully traverse these rejections as the combination of *Beck* and *Bigus* fails to teach all the claimed limitations of the Applicants' invention as set forth above, including: (1) creating a model of the communication; (2) comparing models to produce a predicted action; and (3) comparing predicted and actual responses.

The Applicants also traverse the Examiner's combination of *Beck* with *Bigus* as there is no motivation to combine the references. As such, the Applicants contend claim 78 to be allowable over the prior art of record.

Creating a Model

The Examiner contends *Beck et al* teaches "creating a model of the communication." *Office Action*, p. 49. Applicants respectfully traverse. *Beck et al* discusses a "set of models [that] handle how agents receive their routed media." *Beck*, col. 10, l. 34-35. The models discussed in *Beck et al* are not a model of a communication (as is claimed) but an "enterprise rule[ ]" that is used to govern "customer dialog via predicted dialing, e-mail push, automated recorded messages, and so on." *Beck*, col. 10, l. 50, 52-53. While referred to as a model, *Beck et al* is, in fact, disclosing a set of rules that, for example, "[p]rioritiz[e] interaction events." *Beck*, col. 10, l. 37. *Beck et al* does **not** disclose generating a model of a communication for the purpose of comparing that model to a set of adaptive models to produce a predicted response.

Comparing Models to Produce a Predicted Action

While *Bigus* discusses "models of [an] underlying system or process," there is no evidence that these are models of the received communication. *Bigus*, col. 2, l. 7. Additionally, there is no evidence that these aforementioned models are utilized in col. 9, l. 4-38—as cited by the Examiner—to produce a predicted response. This section of *Bigus* merely describes "the layout of training data for [a] neural network model." *Bigus*, col. 9, l. 4-5. Furthermore, the neural networks models described in column 9 of *Bigus* are **different** than the so-called models of column 2 in that column 2 is referencing "limitations of the prior art" and not the purported invention or teachings of *Bigus*. *Bigus*, col. 2, l. 25.

Comparing Predicted and Actual Responses to Produce Feedback

The Examiner suggests *Bigus* to teach "comparing the predicted action with an actual action . . . to produce feedback." *Office Action*, p. 49. *Bigus* discusses "different training algorithms," there is no discussion of comparison of actions to produce feedback. *Bigus*, col. 6, l. 18. Furthermore, *Bigus* is directed to resource allocation using neural networks; Applicants fail to see how resource allocation is related to action comparison for the purpose of generating feedback.

Dependent Claims 79-81

If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending there from is also non-obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As Applicants' have evidenced the non-obviousness of independent claim 78, the Applicants also contend dependent claims 79-81 to also be nonobvious. Claims 79-81 all depend directly from independent claim 78 and are thus allowable for at least the same reasons as claim 78.

Independent Claim 82

The Examiner rejected claim 82 pursuant to 35 U.S.C. § 103(a) "as being unpatentable over *Beck et al.*" *Office Action*, p. 60. Independent claim 82, as amended, recites:

> A method for real-time modeling of communications in a computerized communication management system, comprising:
> receiving a communication;
> creating a model of the communication on a computer;
> comparing the model of the communication to a set of adaptive models to determine a category for the communication;
> comparing the determined category with an actual category for the communication to produce feedback; and
> updating the set of adaptive models according to the feedback.

The Applicants respectfully traverse this rejections as *Beck* fails to teach all the claimed limitations of the Applicants' invention as set forth above, including: (1)

creating a model of the communication; (2) comparing models to determine a category of the communication; and (3) comparing determined category with an actual category for the purpose of procuring feedback.

Creating a Model of the Communication

The Examiner contends *Beck et al* teaches "creating a model of the communication." *Office Action*, p. 60. Applicants respectfully traverse. *Beck et al* discusses a "set of models [that] handle how agents receive their routed media." *Beck*, col. 10, l. 34-35. The models discussed in *Beck et al* are not a model of a communication (as is claimed) but an "enterprise rule[ ]" that is used to govern "customer dialog via predicted dialing, e-mail push, automated recorded messages, and so on." *Beck*, col. 10, l. 50, 52-53. While referred to as a model, *Beck et al* is, in fact, disclosing a set of rules that, for example, "[p]rioritiz[e] interaction events." *Beck*, col. 10, l. 37. *Beck et al* does **not** disclose generating a model of a communication for the purpose of comparing that model to a set of adaptive models to produce a predicted response.

Comparing Models to Determine a Category

Notwithstanding the Examiner's assertion that updating adaptive models is well known (see *Office Action*, 60), there is no evidence in the Examiner's rejection nor the cited *Cohrs et al* reference of comparing **models**. While *Cohrs et al* discloses comparing an **utterance of speech** against a model, there is no discussion of comparison of the models themselves.

Comparing the Determined Category with an Actual Category

As noted previously, neither *Beck* or *Cohrs* evidence the comparison of categories with one another—only the comparison of an utterance versus a category. As such, the Examiner has failed to evidence each and every limitations as claimed in the present application.

CONCLUSION

In accordance with the above remarks, Applicants believe that the Examiner's rejections as to all claims are fully overcome and that allowance of the present application is in order.

If the Examiner has any questions concerning this amendment, the Examiner is invited to contact the Applicants' undersigned representative at the number set forth below.

Respectfully Submitted,
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